

## UPGRADING THE ACCURACY OF ECONOMIC AND FINANCIAL FORECASTING within the research & analysis activities of the SWF

Although there was no shortage of the qualitative predictions and explanations, the fact remains that the recent crisis had not been forecasted numerically and quantitatively. Say, in 2008 World Bank did not forecasted any decline of the world GDP for 2009; then, at the beginning of 2009, WB forecasted growth slowdown for this year but not outright recession as it was seen afterwards in actuality. And this is none the better for American and other forecasting and planning teams.

This had once more revealed the long-standing inability to capture cyclical and other turns at crises and recessions; and, generally, that it is required an overall upgrading of forecasting, covering the non-crisis periods too.

One of the causes of these problems lies in the drawbacks of the now reigning method of forecasting and “what-if” analysis, namely, the dynamic stochastic general equilibrium, DSGE. This is an over-simplified and over-aggregated method, capturing mere trends and extrapolations, and forecasting crises in terms of probabilities and possibilities of their advent. While, in fact, definite times and figures of output and employment decline can be previewed with almost deterministic accuracy. The DSGE theorists like O. Blanchard admit that their models are “seriously flawed”, but the sufficient repair is not carried out, yet.

Needless to say how such an upgrading is important.

Firstly, more reliable forecasts of the outcomes of spontaneous market forces would facilitate market functioning just like better weather forecasts do not command but facilitate more effective and less risky decisions of free people. Besides, this would facilitate more quick and less socially and economically expensive process of adjustment to varying business environment.

Secondly, this will also provide better discerning of the cases of market failure, when Sovereign Wealth Funds together with monetary and financial authorities may smoothen and stabilize the course of events more consciously and effectively.

Thirdly, a better forecasting of market functioning is required for better execution of the proper governmental services, because the development of private and state sectors must be considered integrally.

The actuality of this range of problems can be seen, say, from the dubious efficiency of the monetary policy stimulus called Quantitative Easing, conducted by the US, the UK and other developed countries.

On the one hand, the idea as such is right, because at various phases of cycle the need in investments varies to such an extent, that no market mechanism of supply of savings could satisfy the demand for investments. Consequently, such gaps could be filled by artificial “savings” provided through money creation.

Still, on the other hand, it was done unconsciously, without proper understanding of the current and future phases; and of the varying intensity of interventions needed. In result, the mere constant pumping of money was, of course, better than the money withdrawals at Great Depression, and yet, it could be fulfilled much more effectively. And over and above, this monetary policy tool had not been properly complemented with the SWF’s government’s investments in infrastructure and other projects.

The particular contribution, which the principally new SWF will bring to tackling the above problems, is better *forecasting of the effects of technological disruptions*.

Notwithstanding the seeming narrowness, the weight of such purely technological component in actual economic dynamics is substantially more significant than it was believed until now. That is why it

is worthwhile to reconsider the influence of technologies on almost all the aspects of economic and financial life. So that we can speak about the effects of technologies on crises and fluctuations; on structural changes of employment, output and investment; on changes in commodity and asset prices; on labor-capital distribution and so on. And accordingly, there should be the corresponding technology-related monetary, fiscal and budgetary policy responses.

And over and above, we should take into account that the significance of technical factor will further increase in the near future, allowing for the coming Fourth Industrial Revolution. Thus, the Davos Forum has already suggested that this productivity revolution will transform or reject half of all jobs and may be accompanied even with temporary recessions and other turns. But the details when and how this could occur, still wait for clarification.

The proposed approach is called a method of Literal Reflection of Technological Advance (LiRTA). It can be considered as a development of DSGE in the part of better accounting of technical progress and it can be incorporated into the greater wholes of existing DSGE and other systems.

The distinctive features of the method LiRTA are disclosed below in comparison with the related predecessors or competitors. So, these features are as follows:

- Literal and direct measurement of progress as productivities and other characteristics of new technologies against old ones (this contrasts to the reigning indirect measurement of progress in terms of Total Factor Productivity (TFP) based on an over-simplified Cobb-Douglas technology function);
- A holistic coverage of all technologies in all industries, without missing even the ones not innovative at all (in contrast to focusing excessively on the innovative technology sector; or on the financial sector neglecting the real sector, which is considered selectively: IT, infrastructure, retailing, transportation, manufacturing, distribution, shipping, automobiles; manufacturing, airlines and some others);
- Literal and explicit reflection of physical retirement of fixed capital after the elapse of its lifespan (in contrast to the mass confusion of it with financial depreciation, as if the equipment began to vanish physically just immediately after its installation. This seemingly technical minutia is a matter of “life or death” for capturing fluctuations);
- Reflection of a worker-workplace coupling (in contrast to those “technologies” that allow arbitrary proportions of labor and capital, as in Cobb-Douglas. This is crucial for capturing involuntary technological unemployment, when the new jobs created by investments temporary fall behind the old-jobs loss. This is an addition or even a competitive alternative to the general equilibrium estimation of unemployment in DSGE).

What has been done here thus far is that this model of forecasting and influencing the transition to the higher level of technological development has successfully passed the preliminary tests on an actual economy of the United Kingdom. This required overcoming substantial informational and computational problems, and finally, it has been proven that the method is both effective and realizable.

Thus, now the goal of the principally new SWF, within this direction, is to set this much more accurate method of economic and financial forecasting on real-time basis and implement it into the routine activities of the SWF itself, and of the related forecasting, planning, statistical, and policymaking services of USA, of other countries (both the developed and developing ones) and at the international level.